

# Scientists worry over disappearing monarch butterfly

By McClatchy Foreign Staff, adapted by Newsela staff

Apr. 17, 2014 4:00 AM



Monarch butterflies take some sun on a branch in the Monarch Butterfly Biosphere Reserve in Mexico's Michoacan state, March 21, 2014.

ANGANGUEO, Mexico—On a high mountain slope in central Mexico, a patch of fir trees looks dusted in orange and black. In fact, millions of monarch butterflies cloak the trees. The forest murmurs with the whirl of their flapping wings.

Every year, hundreds of millions of monarch butterflies find their way on what may be the world's longest insect migration. The monarchs travel the length of North America to pass the winter in central Mexico. Each are so light that 50 together weigh barely an ounce.

Yet the great monarch butterfly migration is in danger because of runaway use of weed killers, extreme weather, and deforestation. Monarch butterfly populations are plummeting. The colonies of butterflies in central Mexico are dense, with as many as several million butterflies in one acre. But this year, the colonies were far smaller than ever before.

Scientists say Mexico's monarch butterfly colonies are on the brink of disappearing. If the species were to vanish, a beloved insect with powerhouse stamina that most school kids can easily identify would be gone.

## **“They Are Pretty Tough”**

“We see these things as so delicate. But if they migrate a distance of some 2,000 miles, from Canada all the way down to Mexico, they are pretty tough,” said Craig Wilson, a scientist at Texas A&M University.

The orange-and-black monarch butterfly is the state insect of Alabama, Idaho, Illinois, Minnesota, Texas, Vermont and West Virginia. It’s also the symbol of a trade agreement which binds Mexico, the United States and Canada.

In February, President Barack Obama met with Mexican President Enrique Pena Nieto and Canadian Prime Minister Stephen Harper. They agreed to work together to ensure the survival of the monarch butterfly.

Scientists say there are many possible reasons for the monarch’s decline, but they’re focusing now on one major one: Monarch butterflies can’t survive without the milkweed.

The milkweed is a lowly broadleaf plant that’s widely treated as a weed to be eradicated. It is doused with herbicides in farmlands and along highway shoulders. Milkweed is most common in the high-grass prairies of Canada and the U.S. Midwest, but its 70 varieties also grow along the Atlantic and Pacific coasts, in the Caribbean, and elsewhere.

## **Massive Loss Of Milkweed**

Female monarchs lay eggs on milkweed. When they hatch, the larvae grow into caterpillars that feed on the milkweed’s leaves. Those leaves contain a poison that makes the monarchs resistant to their predators. The caterpillars then form chrysalises and emerge as butterflies.

Over the past decade, U.S. fields containing milkweed have declined sharply. Orley “Chip” Taylor, a monarch expert at the University of Kansas, calls the loss “massive.”

The use of new genetically modified corn and soybean types that can withstand herbicides has added to the loss. Now farmers use a herbicide that kill weeds with a vengeance. That has had a huge impact on milkweed, which before could grow among crops or at the edges of fields.

“The crops survive but any weeds, including milkweed, don’t,” said Wilson, the scientist at Texas A&M.

At the same time, the size of the colonies of monarchs spending winters in central Mexico has dropped.

Nearly two decades ago, in the winter of 1996-97, dense monarch colonies covered 44.9 acres of fir

forest. Last winter, the colonies covered only 1.7 acres, a plunge of nearly 44 percent from just the year before.

## Dwindling Colonies A Warning?

Most monarchs live only a little more than a month. But one generation each year lives seven or eight months, long enough to migrate to central Mexico before winter sets in. There, they often cluster around the same fir trees as their forebears, perhaps drawn by chemical cues. In the spring, the monarchs return to the north, where they lay eggs on milkweed and then die, giving way to a new generation.

The dwindling monarch colonies worry scientists, who fear they may also be a warning of other environmental crises. But in this region of Mexico, the decline also threatens people's livelihood. Butterfly tourism has grown since scientists first came across the dense winter colonies in 1975.

In Mexico's eastern Michoacan state, butterfly lodges cater to butterfly lovers. Fernando Guzman Cruz, a member of a group that protects the local butterfly reserve, says only 55,000 visitors came this season. That's a 50 percent drop from a year earlier, he said. Cruz blames the decline on U.S. agricultural practices.

"We want you to stop killing the milkweed," he told a U.S. visitor.

Scientists also worry what the decline of the monarch butterflies means for other species.

"If monarchs are in trouble, you can practically be assured that there are a number of species that are also in trouble," said Sonia Altizer, an ecologist. Other insects and birds rely on the same environment as the butterflies, she said.— How To Help Monarch Butterflies In Your Area

One of the main reasons for the recent decline of monarch butterflies, scientists think, is the eradication of milkweed plants—which the monarchs lay eggs on and their larvae eat. Here are suggestions how individuals can help:—Plant native milkweed in your yard and encourage local government to plant it in parks. There are several sources for free milkweed seeds. Consult [livemonarch.com](http://livemonarch.com) for sources of seeds. [Monarchwatch.org](http://Monarchwatch.org) provides a list of providers of milkweed plants and seeds. Be sure to determine which variety is appropriate to the area where you live.—Join programs to monitor monarch butterfly movements and presence in your area. A national count conducted by the North American Butterfly Association is July 1 in Canada and July 4 in the United States. The association's website is [naba.org](http://naba.org).—Write to legislators to encourage them to include milkweed among the plants that are seeded along highway roadsides. The roadsides along monarch migratory routes are especially important.